

One Engineer's Perspective of Technical Writing in the Information Age

As an engineer at the Jet Propulsion Laboratory (JPL) of Caltech, writing that communicates technical information efficiently has been important in my work. I develop computer software designs and applications to support the data analysis needs of the science and imaging teams for several planetary exploration projects. My work is part of the Multimission Image Processing Laboratory (MIPL), a collection of professionals and computer systems that process and deliver science instrument data returned by the various spacecraft flown by JPL.

As an example of one mission, the Galileo spacecraft will begin orbiting Jupiter on 7 December 1995. The precious data taken by its digital camera will be captured by a system of antennae around the globe and find its way through the ground data system to MIPL, JPL's science data processing center. This data, glorious in its content and inspiring in its mere existence, will be made available for display and use by planetary scientists around the world in part by the dedicated work of software and system engineers who have built the complex collection of computer networks and software to handle this data.

Quality technical documentation has been critical to the development and maintenance of this system. For every standard image product that has been created for general distribution, we have produced specifications for that data. For every computer database that has supported our large scale production of image and multispectral data, we have created specifications to describe the tabular contents of that database. For every data processing software stream, we have written test plans for system test engineers to use to verify the stream's correct operation. There are a very large number of interfaces that require documentation to adequately define their characteristics. Furthermore, there is no end to the number of situations in the system development process where specifications or designs are referenced.

Skills in producing technical documentation are increasingly important in the everyday work of an engineer. Moving images, drawings, figures, tables, and text through a myriad of drawing, spreadsheet, and word processing applications, such as Claris MacDraw 1.1, Microsoft Word, Excel and PowerPoint, is a part of our routine work in document generation. Currently, there is a great push to use hypertext technology to make technical information available over the Internet. Over the past three years, the world, both scientific and commercial, has witnessed an explosion in information available via the network using World Wide Web (WWW), client-server technology. Now, there is great demand for people with experience in authoring documents in Hypertext Markup Language (HTML) for publishing documents on network home pages, a type of cover page to an organizations' information available over the network. Using Netscape or Mosaic applications, you can view our Web site home page as an example. The Universal Resource Locator (URL) address is <http://www-mipl.jpl.nasa.gov/>.

My suggestion to anyone interested in moving ahead in technical writing is to keep adding to your toolbox of skills. Breadth in skill mix is in high demand for engineers. Likewise, breadth in document publishing skills along with quality writing ability is most desirable in a technical writer for an organization like JPL. Never stop acquiring those cutting-edge skills and learning new technologies. Have you heard of VRML?

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